



Harmonization and Comparative Evaluation of Evapotranspiration Estimates in Data Scarce Conditions

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Abstract: For efficient irrigation water management and hydro-meteorological studies at both the field and catchment scales, a need exists to evaluate the existing evapotranspiration (ET) estimation methods under varied physiographical and data availability conditions. With the limited availability of meteorological variables at basin-scale in many remote areas, ET estimation is becoming a challenging task. There is a scope to test the ET methods by FAO-56 PM method, the benchmark method with Hargreaves raw model. All of them were inter-compared by taking its basin average. Further, FAO-56 PM and Hargreaves raw model were harmonized by daily and monthly correction factor (C_i) for five year period and was verified by using statistical indicators namely, index of agreement (d) and Pearson correlation coefficient (r) as well as graphical indicators. The harmonized estimators of less data intensive methods relative to FAO PM provides satisfactory results in all six stations after applying the correction factor.

Keywords: FAO-56 PM, Hargreaves model, Harmonization
